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EXAMINER

WEI, ZHENG

ART UNIT	PAPER NUMBER
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2192

NOTIFICATION DATE	DELIVERY MODE
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02/06/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/692,660

Applicant(s)

MCCOLLUM ET AL.

Examiner

Zheng Wei

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Remarks

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered.
2. This office action is in response to the amendment filed on 08/01/2007.
3. Claims 1, 20 and 27 have been amended.
4. Claims 1-27 remain pending and have been examined.

Response to Arguments

5. Applicant's arguments filed 08/01/2007 have been fully considered but they are not persuasive.
 - At page 6, last two paragraphs to second paragraph of page 7, the Applicant argues that, for the claim 1, Bigues does not teach or suggest the novel aspects about rule definition language (RDL) which includes statements that allow a rule to be broken down into one or more instructions. However, it should be noted that claim language does not define any thing about RDL and statements that relates to implement the rule including composing or decomposing the rule. Therefore, the rule recited in the claim 1 can be

reasonable interpreted general as a rule logic embedded in the computer application or program code.

- At page 6, last line to page 7, first paragraph, the Applicant contends that Bigus does not teach or suggest decomposition of each statement into a number of smaller instructions that are executed asynchronously. However, the term "statement" is not cited in the claim 1. Claim 1 only recites the term "the rule" that can be decomposed into a subset of instructions. It is well known in the computer art that in order to apply a rule by using a computer, the rule has to be implemented by computer programming language/statement and further be compiled/decomposed into a set of computer processor executable instructions. As Bigus disclosed, (Figure 4, steps 401, 406 "Parse Ruleset Name", "Parse Ruleblocks and Rule" and related text; also see Figure 2B, items 231, 216, 217 and Figure 6, steps 603-605 and related text), a rule(ruleset/ruleblock) can be decomposed(parsed) and processed(evaluated). Therefore, Bigus does disclose the limitation as cited in claim 1.
- At page 7, second paragraph, the applicant submits that Bigus fails to teach the rule that can be executed concurrently with one or more disparate rules. However, the examiner respectfully disagrees. As Bigus disclosed, (Fig.2B, items 231, "RulesBlocks", items 216-218 "inference Engine"; also see paragraph [0045]), the rule (rulesblocks) can be executed (processed) concurrently by different inference engines and rules in one rule block can

invoke other rule blocks (see for example, paragraph [0045]). Therefore,

Bigus does disclose the limitation as cited in claim 1.

- At page 7, third paragraph, the Applicant points out that Bigus is silent with respect to the feature about concurrent processing and decomposing the rule into a subset of instructions that are processed at least one of asynchronously or out-of order. However, Bigus does disclose these limitations as addressed above. It also should be noted that the term "RDL" the Applicant cited in the argument is not claimed in claim 20. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., RDL) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Objections

6. Claims 8, 9, 15 and 19 are objected to because of the following informalities:

Claims 8 and 9: "facilitate" should be changed to --facilitates--.

Claims 15 and 19: Acronym, like URI and XML in the claims, which needs to be spelled out once in the claims, as their claimed intermediate meanings tend to change over the time.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2-17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-6, 8,-13, 17 and 19:

Claims 2-6, 8,-13, 17 and 19 recite the limitation "the statements" in these claims.

There are insufficient antecedent basis for this limitation in the claims.

Claims 2-17 and 19:

Claims 2-17 and 19 recite the limitation "The product" in these claims. There are insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bigus (Bigus et al., US 2004/0083454).

Claim 1:

Bigus discloses a computer readable medium having computer executable program code embodied thereon for performing the following act for authoring of rules (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device"): composing a rule such that the rule can be decomposed (parsed) and processed asynchronously (sequentially) to facilitate at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, or communicating results of dynamic tests to other components (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see. Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines."; see for another example, p.3, paragraph [0045], "Depending on the inference engine used by the rule block, the rules can be processed sequentially or selected to fired..." [emphasis added]), the rule executed concurrently with one or more disparate rules (see for example, Fig.2B, items 231, "RulesBlocks", items 216-218 "inference Engine"; also see paragraph [0045]). But Bigus does not explicitly disclose decomposing the rule into a subset of instructions. However, it is well known in the computer

art that in order to apply a rule by using a computer, the rule has to be implemented by computer programming language/statement and such statements have to be further compiled/decomposed into a set of computer processor executable instructions that can be processed by processor.

Claim 2:

Bigus further discloses the product of claim 1, at least one of the statements facilitates activating the rule for processing (see for example, paragraph [0025], "using-clause of the init() rule block").

Claim 3:

Bigus also discloses the product of claim 1, at least one of the statements facilitates activating the rule according to least one of a regular basis and detection of an event (see for example, paragraph [0045], "Depending on the inference engine used by the rule block, the rules can be processed sequentially or selected to be fired based on priority, specificity, or some other criterion").

Claim 4:

Bigus further discloses the product of claim 1, one or more of the statements facilitates performing a continuous polling loop (see for example, paragraph [0046], "A rule is a declarative statement or knowledge expression. Rule language statements are referred to as rules...and while and do-while iteration

rules”).

Claim 5:

Bigus also discloses the product of claim 4, the polling loop is performed according to a polling interval such that the polling loop executes and then waits for the polling interval to expire before executing a next polling loop (see for example, paragraph [0073], “...provides a timer function, wherein the bean cycles from a sleep mode to a wake-up mode every N milliseconds”).

Claim 6:

Bigus further the product of claim 4, the polling loop is facilitated according to a keyword that includes at least one of a variable, an object, or a constant (see for example, paragraph [0073], “...provides a timer function, wherein the bean cycles from a sleep mode to a wake-up mode every N milliseconds, where N is a variable.”).

Claim 7:

Bigus further discloses the product of claim 1, the rule executes concurrently with another rule (see for example, paragraph [0047], “Multiple rules can be grouped together into rule blocks, Each rule block can have an associated inference engine that interprets the rules in that block. This allows for mixing multiple inference techniques. The inference engines implement the control strategies

that affect how the rules are interpreted.”).

Claim 8:

Bigus also discloses the product of claim 1, at least one of the statements facilitate creating at least one of an implicit task and an explicit task, wherein the explicit task is created by explicitly specifying a keyword and explicit task object, and the implicit task is created when a startup attribute is used on the rule. (see for example, paragraph [0074]-[0075] and example code in [0078]-[0080], “the ruleset bean is a bean that provides support for processing events, either synchronously or asynchronously”)

Claim 9:

Bigus further discloses the product of claim 8, at least one of the statements facilitates explicit task declaration of the explicit task object for the explicit task, and use of a statement that launches concurrent execution of the rule (see for example, Figure 9 and related text, also see paragraph [0075]-[0076], “The ruleset author can declare rulesets of any valid rule language identifier and these are depicted as items 909 and 910.”).

Claim 10:

Bigus further discloses the product of claim 1, at least one of the statements facilitates creating a task using one of a startup attribute or a signaling attribute

(see for example, paragraph [0025], "initializing each rule block and creating an instance of an inference engine specified in a using-clause of the init() rule block").

Claim 11:

Bigus also disclose the product of claim 1, at least one of the statements facilitates allowing the rule to invoke another rule (see for example, paragraph [0045], "Rules can be written that invoke other rule blocks").

Claim 12:

Bigus further discloses the product of claim 1, at least one of the statements facilitates separating rule logic data from rule configuration data using at least one parameter (see for example, paragraph [0068], "The design of the framework explicitly provides for this capability by separating the data from the inference or control modules.").

Claim 13:

Bigus also discloses the product of claim 12, the at least one parameter is passed by one of a value or by reference (see for example, paragraph [0045], "Rules can also call out to arbitrary Java methods to receive values and invoke actions.").

Claim 14:

Bigus also discloses the product of claim 1, the rule is an independent rule authored using at least one of an infinite loop or an event-driven callback (see for example, paragraphs [0073] –[0074], “bean cycles”, “processTimerEvent() rule block” and “processEvent() rule block”)

Claim 15:

Bigus discloses the product of claim 14, the event-driven callback facilitates asynchronous delivery of a data item (see for example, paragraph [0074], “processing events, either synchronously or asynchronously”, also see paragraph [0075] “inputs{}”), but does not explicitly disclose the data item is from an URI-based source. However, it is well known in the computer art that URI can be classified as URL and URN. The URL can be configured and embedded in XML ruleset as described in Bigus’ example at paragraphs [0080]-[0081], the definition of “xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'”. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to define data input in “inputs” namespace by using the URL to retrieve input data automatically without user input. One would have been motivated to do so to allows the ruleset bean to operate in an autonomous or fully-automatic mode as suggested by Bigus (see for example, paragraph [0073], “This processing mode allows the ruleset bean to operate in an autonomous or

fully-automatic mode enabling the framework to be used in autonomic and real-time policy enforcement applications”)

Claim 17:

Bigus further discloses the product of claim 1, at least one of the statements facilitates collecting at least two data items concurrently, when the at least two data items become available (see for example, Figure 6, step 602 and related text, “Process Input Variables”).

Claim 18:

Bigus also discloses the computer readable medium of claim 1, embodied within a device. (see for example, Figure 2A and related text, also see paragraph [0063], “a computer system 201”).

Claim 19:

Bigus also discloses the product of claim 1, one or more of the statements facilitates at least one of automated rule instantiation based on XML, built-in polling without threading or concurrency considerations, and automated logging of rule instance information in alerts (see for example, paragraphs [0080]-[0081], “XML ruleset”, “outputs”, also see paragraphs [0073]-[0074], “output buffer”).

Claim 20:

Bigus discloses a computer readable medium having computer executable program code embodied thereon (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device"), for providing a method that perform the act of authoring rules for concurrent processing (see for example, Fig.2B, items 231, "RulesBlocks", items 216-218 "inference Engine"; also see paragraph [0045], "Rules can be written that invoke other rule blocks" and paragraph [0074], "for processing events, either synchronously or asynchronously"), the method comprising, composing a rule of one or more statements that facilitate decomposing the rule into a subset of instructions that are processed asynchronously, the rules processed to perform at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, and communicating results of dynamic tests to other components. (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines."). But Bigus does not explicitly disclose decomposing the rule into a subset of instructions. However, it is well known in the computer art that in order to apply a rule by using a computer, the rule has to be implemented by computer programming language/statement and such statements have to be further compiled/decomposed into a set of computer

processor executable instructions that can be processed by processor.

Claim 21:

Bigus further disclose the method of claim 20, further comprising extension of the rule with constructs without modifying the rule, the extension is performed by one of, extending the rule to allow an alternate test before allowing the rule to fail; constraining the rule to make the test more stringent; or hooking the rule (see for example, paragraph [0070], "Library statements allows the user to import public methods in specified classes as user-defined functions without needing to declare each method explicitly").

Claim 27:

Bigus discloses a computer program product including a computer readable medium having computer readable program code embodied thereon (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device") for providing a method of authoring rules for concurrent processing, the method comprising, composing a rule of one or more statements that facilitate decomposing the rule into a subset of instructions that are independently scheduled for execution representative of an infinite loop, the rules processed to perform at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, and

communicating results of dynamic tests to other components. (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines.").

11. Claims 16, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigus (Bigus et al., US 2004/0083454) in view of Graf (Lars Oliver Graf, US 6212581)

Claim 16:

Bigus discloses the product of claim 1, but does not disclose the rule is subscribed to reveal events at one time. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses revealing events at same time (see for example, col.14, lines 54-65, "The events program defines an ordered list of records, each describing a type of event", "SYSTEMWatch AI-L will check for events whenever the checkEvent function is called"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to manage events list more efficient as suggested by Graf. (see for example, col.14, lines 54-65, "the next event to be executed is first on the list").

Claim 22:

Bigus discloses the method of claim 20, but does not disclose the method further comprising forwarding a log event to a supervisor in accordance with the one or more statements of the rule. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses forwarding an alert message from client to console to notify the system administrator (see for example, col.50, lines 9-18, "alert notifications"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to present problem notification to system administrator for automatic management purpose as suggested by Graf (see for example, Fig.9, Fig.10 steps 79, 83, "Display Alerts", also see col.3, Summary of the Invention, lines 17-18, "automatically manages")

Claim 23:

Bigus discloses the method of claim 20, but does not disclose the method further comprising forwarding a log event using a function in accordance with the one or more statements of the rule, the log event forwarded to a supervisor that deployed the rule from which the function is called. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses using a function to forward the log event (see for example, Fig.9, steps 77, 79 and related text, "Call execRules", "Call

CheckAlert"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to present problem notification to system administrator for automatic management purpose as suggested by Graf (see for example, Fig.9, Fig.10 steps 79, 83, "Display Alerts", also see col.3, Summary of the Invention, lines 17-18, "automatically manages")

Claim 24:

Bigus discloses the method of claim 20, but does not disclose the method further comprising forwarding an alert using a function in accordance with the one or more statements of the rule, the alert forwarded to a supervisor that deployed the rule from which the function is called. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses using a function to forward the log event to the supervisor as in claims 22 and 23 above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to present problem notification to system administrator for automatic management purpose as suggested by Graf (see for example, Fig.9, Fig.10 steps 79, 83, "Display Alerts", also see col.3, Summary of the Invention, lines 17-18, "automatically manages")

Claim 25:

Bigus discloses the method of claim 20, but does not disclose the method further comprising consolidating and reporting according to a predetermined time interval. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses the method comprising:

- consolidating a plurality of events (see for example, col.19, lines 37-61, “Unique List Check”, “Duplicate Alert Check”); and
- reporting a consolidated event summary based on the consolidated events according to a predetermined time interval (see for example, Fig.9, steps 79, 80 and related text, “Display Alerts”, “sleep 5 seconds”)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf’s method in Bigus’s program product. One would have been motivated to do so to prevent a server problem from posting multiple identical alerts at different times as suggested by Graf (see for example, col.19, lines 46-47)

Claim 26:

Bigus discloses the method of claim 20, but does not disclose the method further comprising monitoring system hardware and software resources in accordance with the one or more statements of the rule. However, Graf in the same

analogous art of a method and system for managing a group computer using rule-based expert system discloses monitoring the computer software and hardware (see for example, Fig.4-5, also see, col.4, lines 4-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to automatically gather computer information as suggested by Graf (see for example, col.3, lines 11-21)

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059 and Fax number is (571) 270-2059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ZW



TUAN DAM
SUPERVISORY PATENT EXAMINER